

## Taxonomic relationships in Namibian Black Tits *Parus* spp.

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Resolution in taxonomic terms of the complex mosaic presented by the largely contiguous forms of three melanistic *Parus* spp. found to converge in the southwestern African interior has been addressed in several contributions to the periodic literature ever since Macdonald & Hall (1957) described Carp's Tit *Parus carpi* from northwestern Namibia. These workers introduced *carpi* as a subspecies of the wide-ranging Southern Black Tit *Parus niger* Vieillot, and their understanding of its status was followed in Peters' *Check-List* by Snow (1967), but rather earlier, in Clancey (1964), it had already been demonstrated that *carpi* was perhaps better associated with the White-winged Black Tit *Parus leucomelas* Rüppell, and especially its southern race *P. l. insignis* Cabanis, described from central Angola (see also Clancey 1985). This last-named taxon is a strict endemic of the extensive *Brachystegia* woodland savanna biome of a large swathe of south-central Africa, the so-called Miombo. Interestingly, Winterbottom (1971), after three major collecting expeditions to Namibia in the 1960s in association with the State Museum, concluded, erroneously, that *carpi* was a straight synonym of *P. niger* (= *P. n. xanthostomus*). Other melanistic congeners occurring in the more arid parts of the southern Afrotropics affect different woodland facies, except, in part, for *P. niger ravidus* Clancey, which is largely based on the *Brachystegia* savanna tracts of Zimbabwe and the Mozambique lowlands to the east.

In the *S.A.O.S. Checklist* (Clancey 1980), the decision was made to treat *carpi* as a species distinct from both *P. niger* and *P. leucomelas*. This conclusion was based on the study of a large series of 68 examples of *carpi* (42 from Namibia and 26 from Angola) and a voluminous material of *P. niger* populations and of *P. l. insignis*. In a major revisionary study of world parids, Eck (1988) associated *carpi* with the *leucomelas* group, while in a more recent comment on the disputatious issue of the status of *carpi*, Dowsett & Dowsett-Lemaire (1993) return to the view that it is simply a subspecies of *P. niger*, basing their conclusions on voice recordings, which are nevertheless equivocal in face of the range overlap of *carpi* and *niger* in north-central Namibia (C. J. Brown, pers. comm.).

Findings in Namibia which go far to resolving the impasse which has developed over the status of *carpi* have recently been drawn to my attention by Dr C. J. Brown of the Directorate of Environmental Affairs, Windhoek. These findings result from team work carried out in recent years, especially in the Waterberg region at 20° 28' S, 17° 13' E, on behalf of the Namibian Bird Atlas Project by Dr Brown and his co-workers, and substantiate the conclusion arrived at earlier on museum research and analysis carried out in South Africa, that two melanistic tit species are present in the Namibian avifauna. In the

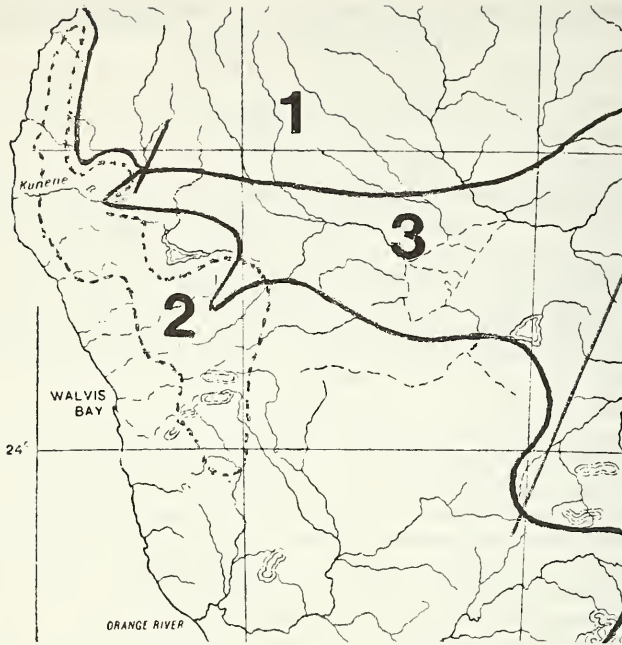


Figure 1. Sketch-map of Namibia and adjacent territories showing the points of range overlap between the melanistic tits occurring in the region south of the Kunene and Okavango Rivers. 1, *Parus leucomelas insignis* (allopatric); 2, *Parus carpi*; 3, *Parus niger xanthostomus*. The pointed apices of the range of *P. n. xanthostomus* on the left indicate the centres of overlap between it and *P. carpi*. (Based on data assembled for the Namibian Bird Atlas Project.)

Waterberg, the two parids are locally in contact, with the Southern Black Tit confined to the moist summit levels of the upland, being replaced peripherally at lower elevations in similar but drier habitat by Carp's Tit. There is no indication that the two tits hybridize or behave in their contact zones as other than discrete species. Maps supporting these findings have kindly been made available for the present paper by Dr Brown, and form the basis for Figure 1.

In the case of a second point of contact between the two tits located on the Kunene R. on the Namibian border with Angola at *c.* 14° 20' E, such data as are available show it to be comparable in nature to the situation present further south in the South West Arid Zone where the Acacia Grey or Ashy Tit *Parus cinerascens* Vieillot meets the Southern Grey *Parus afer* Gmelin along the Orange R., again without hybridization (see Clancey 1958).

Turning to the relationship of *P. carpi* to the White-winged Black Tit, one is faced with a lack of supporting field evidence from critical parts of southwestern Angola. With Angola still embroiled in civil war

and the southern and eastern parts of the state likely to remain hazardous to travellers for years to come because of land-mines, opinion on the taxonomic status of *carpi* vis-a-vis *P. l. insignis* must rest on the readily available specimen and ecological evidence. *P. carpi* exhibits affinity with *insignis* in having the dorsal and ventral surfaces equally glossed blue-black in both sexes and the closed wing with a like largely unbroken white panel, but differs in its much smaller size and weaker bill, thus: *P. carpi* wings of ♂♂ 80–84, of ♀♀ 74.5–80, tails 62–69, 61–68.5, culmens from skull 12–12.5, 11.5–12 mm; in *P. l. insignis* ♂♂ have wings 93–97, ♀♀ 86–91, tails 71–80.5, 71–76, culmens 14–15, 14–14.5 mm (after Clancey 1972). Other criteria are the whiter outer edges of the tail and the fact that the female has the face and upper fore-throat olive-brown, versus blue-black in *insignis*. Ecologically the two parids are discrete, with *carpi* a denizen of arid bushveld associations, whereas *insignis* is an endemic form confined to the *Brachystegia* woodland savanna. There is no intergradation or hybridization between them at the present time, but elements of both may have been in sympatric contact at some long past stage of their history.

The southern race of the White-winged Black Tit *P. l. insignis* extends south, north of *P. n. xanthostomus*, to c. 15° S in Angola and Zambia, ranging east to southeastern Tanzania and adjacent Malawi in the high interior. Generally regarded as an endemic of the Miombo biome of south-central Africa, Benson *et al.* (1971) show that in Zambia at least it is more closely associated with bush in open country, as opposed to predominant *Brachystegia* woodland (Miombo), which there is favoured by *P. n. xanthostomus*. Its status to the west of Zambia is unclear, as its occurrence in the Angola/Namibian vegetational ecotone has not been closely studied, which habitat type favours *niger* rather than *leucomelas*, which has, however, been taken south of Lubango in Huila in the southwest, and to the east in southern Angola at 15° S in Cuando-Cubango. The two melanistic tits here interdigitate in accord with vegetational shifts in the northern parts of the ecotone.

*P. l. insignis* differs from *P. n. xanthostomus* in its greater size, more glossy blue-black dorsal and ventral surfaces, whiter wing-panels and lack of white in the outer tail. For further data see Clancey (1972). The two tits are ecologically disparate, and are vocally readily distinguishable.

In the case of the melanistic species present in Namibia, these may be differentiated from both *P. l. insignis* and one another on the basis of the following criteria.

#### *Parus niger*

*Parus niger xanthostomus* Shelley, 1892: Victoria Falls, Zambezi R., Zimbabwe. Synonym: *Parus fuelleborni* Reichenow, 1900: Undis, Songea district, Tanzania (see Eck 1988). Male with upperparts muted glossed blue-black; underside more matt black with dull blackish 'shadow' abdominal streak and greyish flanks. Female with less blackish underside than male, the face and ventral surface deep olivaceous grey. Wings of ♂♂ 85–89, ♀♀ 80–84, tails 72.5–78, 70–77, culmens from skull 12.5–13, 11.5–13 mm.

*Range.* East and north-east of *P. carpi* in Namibia and southern Angola east to Botswana and the mid-Zambezi valley south of *P. l. insignis*, east locally to the Luangwa Valley, Zambia, Malawi, adjacent northern Mozambique and marginally in southeastern Tanzania beyond the limits of the Miombo biome. In bushveld associations with rainfall generally >500 mm p.a. The small Waterberg, Namibia, population forms an isolate, surrounded by *carpi*.

#### *Parus carpi*

*Parus carpi* Macdonald & Hall, 1957: Warmquelle, Kaokoland, Namibia. Differs from *P. n. xanthostomus* in being deeper and glossier blue-black over the upperparts, the underside similar. Wing with a largely unbroken white panel over the coverts, extending to the remiges. Size much smaller and bill shorter and more gracile. Sexes virtually alike, but female with face and upper fore-throat washed with olive-brown. Measurements given above in text.

*Range.* Central and northern Namibia from 24° S north, west of the Etosha Pan, to the lower Kunene R., thence through southwestern Angola west of the escarpment to Moçamedes, western Huila and Benguela to about 12° S. Occurs in a zone of contact with *P. n. xanthostomus* in the Waterberg to the south of the Etosha Pan and again in riverine woodland where the Kunene first enters Namibian territory. Affects a drier bushveld habitat than *P. n. xanthostomus*, with rainfall <500 mm p.a.

*Comment.* The taxa *P. n. xanthostomus* and *P. carpi* comprise a case of secondary contact, resulting from a recent range expansion by the former. Instructively, the entire southern assemblage of melanistic forms presents a highly confusing distributional mosaic, with *P. n. niger* Vieillot: eastern Cape, like *xanthostomus* also occurring in a bushveld habitat and resembling it closely in plumage characters. These two forms are now separated by the intrusive *P. n. ravidus* Clancey, described from 'Mkien', near Bulawayo, Zimbabwe, centred on the *Brachystegia* woodland savanna lying to the south of the middle and lower Zambezi in both Zimbabwe and southern Mozambique, in which taxon the largely unbroken white wing panel, characteristic of Miombo black tit populations further north in the Afrotropics, is once again to be found. It differs from them, however, in the female plumage, which is very light greyish below.

To conclude, it is now established that the two melanistic tits in Namibia are taxonomically and ecologically distinct, mainly allopatric species which are narrowly sympatric at two points.

A comparable but more extended condition of contact is presented where the Southern Black Tit *P. n. xanthostomus* meets the White-winged Black Tit *P. l. insignis* in southern Angola and regions to the east; the two species are here abruptly separated along ecological (biome) lines, and do not hybridize. The complex of tit taxa currently present in the Southern African Sub-Region derives from environmental factors underlying a phase of widespread speciation in the recent past.

### Acknowledgements

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## IN BRIEF

### ADDITIONAL RECORDS OF RANGE EXTENSION IN THE HOUSE CROW *CORVUS SPLENDENS*

Further to the review of the distribution of the House Crow *Corvus splendens* published recently in this journal (Ryall 1994), other supplementary reports have now come to light and are presented below.

#### Europe

##### Netherlands

Two House Crows were discovered at Hoek van Holland on 10 April 1994 and at least one was still present in late May 1995. They feed primarily on leftovers from several fish restaurants but also forage around the piers of the adjacent waterway, the Nieuwe Waterweg, which they have crossed on at least one occasion (G. Steinhaus). They often associate with Jackdaws *C. monedula* when feeding and roosting in tall trees in the area.